DNV·GL

EU-TYPE EXAMINATION CERTIFICATE

[2] EQUIPMENT OR PROTECTIVE SYSTEM INTENDED FOR USE IN POTENTIALLY EXPLOSIVE ATMOSPHERES DIRECTIVE 2014/34/EU

[3] EU-Type Examination Certificate Number: **Presafe 17 ATEX 11284X** **Issue 3**

[4] Product: **MPM489 / MPM489W Pressure Transmitter / Level Transmitter**

[5] Manufacturer: **MICRO SENSOR CO., LTD.**

[6] Address: **No.18 Yingda Road, New & High-Tech Development zone, Baoji City, Shaanxi Province, China**

[7] This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

[8] DNV GL Presafe AS, notified body number 2460, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential reports listed in section 16.

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN IEC 60079-0:2018 and EN 60079-11:2012.

[10] If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate.

[11] This EU - TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

[12] The marking of the product shall include the following:

Ex II 1 G Ex ia IIC T4 Ga

Date of issue:
2020-09-10

NORSK AKKREDITERING
PROD 021

Ståle Sandstad
For DNV GL Presafe AS
The Certificate has been digitally signed.
See www.dnvgl.com/digitalsignatures for info

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[13] **Schedule**

[14] **EU-Type Examination Certificate No.:** Presafe 17 ATEX 11284X Issue 3

[15] **Description of Product**

The enclosure material of MPM489 Pressure Transmitter and MPM489W Level Transmitter is stainless steel, and MPM489 Pressure Transmitter could have a HTP plug which is made of plastic. For MPM489 Pressure Transmitter and MPM489W Level Transmitter, each transmitter has two type circuits, the current type and the voltage type. The pressure transmitter and level transmitter share the same circuits. The pressure/level transmitter must be powered by a safety barrier installed in a safety place.

Type designation

MPM489 ☐ ☐ ☐ ☐ ☐

Others:
B1: Plug connection B2: Cable connection
PC1: Flush diaphraqm, M20x1.5 male PC3: Flush diaphraqm, G1/2 male
C1: M20x1.5 male, face type seal C3: G1/2 male (used for flush diaphraqm)
C5: M20x1.5 male, waterline seal C2: G1/4 male C4: G1/4 female
C6: NPT1/4 male C7: NPT1/8 male C8: NPT1/4 female C9: NPT1/8 female
C10: NPT1/2 male C11: NPT1/2 female C12: G3/4 male C13: G1/8 male
C15: R1/4 male C16: G3/8 male, face type seal C17: R3/4 C20: NPTF1/4
C21: G3/8, waterline seal C26: 7/16-20 UNF-2A C28: G1/2 male
C30: G1/4, waterline seal C31: R1/2 male C32: 7/16-20 UNF-2B G: Gauge
S: Sealed gauge A: Absolute

Construction material:
22, 24, 25, 35

Output signal:
E: 4～20 mA d.c. F: 1～5 V d.c. J: 0～5 V d.c. K: 0.5～4.5 V d.c.
W: 0.5 ~ 2.5 V d.c.

Power supply:
V_S: 11～28 V d.c. V_d: 3.3～15 V d.c.

Pressure range:
[0～X] kPa or MPa
X: actual measured pressure

Pressure Transmitter

MPM489W ☐ ☐ ☐ ☐ ☐

Sensor sealing mode:
Default: O-ring seal H: Welding seal

Construction material:
22, 24, 25

Output signal:
E: 4～20 mA d.c. F: 1～5 V d.c. J: 0～5 V d.c. K: 0.5～4.5 V d.c.
W: 0.5 ~ 2.5 V d.c.

	Power supply: V_5: 11～28 V d.c. V_d: 3.3～15 V d.c.
	Pressure range: [0～XmH_2O]L X: actual measurement range L: cable length
	Level Transmitter

Electrical Data
Intrinsically safe parameters:
Ui: 28 V, Ii: 115 mA, Pi: 0.66 W, Ci: 0.055 uF, Li: 0 mH (current type) or
Ui: 26 V, Ii: 140 mA, Pi: 0.66 W, Ci: 0.055 uF, Li: 0 mH (voltage type) or
Ui: 15 V, Ii: 200 mA, Pi: 0.75 W, Ci: 0.0451 uF, Li: 0 mH (voltage type)

Degrees of protection (IP Code)
IP68 (2 m, 30 min) for type MPM489W and type MPM489 (cable connection)
IP65 for type MPM489 (plug connection)

Ambient temperature:
-25°C to +80°C (DQYPT cable connection, plug connection)
-20°C to +70°C (DQYPY cable connection)
-25°C to +70°C (CGYPV cable connection)

Routine tests
N/A

[16] **Report No**.: 2017-9493, Rev. 03
Project No.: PRJC-547904-2016-PRC-CHN

[17] **Specific Conditions of Use**

- The pressure transmitters must be installed and used according to instruction.

[18] **Essential Health and Safety Requirements**

Essential Health and Safety Requirements (EHSRs) are covered by the standards listed at item 9.

[19] **Drawings and documents**

Number	Title	Rev.	Date
20170818	Circuit Connection Diagram (two sheets)	V2.0	2020-06-05
MS2.580.023-1	MPM489 Pressure Transmitter Assembly Drawing (Cable Connection)	V3.0	2020-06-05
MS2.580.023-1P2	MPM489 Pressure Transmitter Assembly Drawing (Cable Connection)	V3.0	2020-06-05
MS2.580.023	MPM489 Pressure Transmitter Assembly Drawing (Plug Connection)	V3.0	2020-06-05
MS2.580.023P2	MPM489 Pressure Transmitter Assembly Drawing (Plug Connection)	V3.0	2020-06-05
MS2.580.023-1WX	MPM489 Pressure Transmitter Outline Drawing (Cable Connection)	V1.0	2016-05-19

MS2.580.023-1P2WX	MPM489 Pressure Transmitter Outline Drawing (Cable Connection)	V1.0	2017-01-06
MS2.580.023WX	MPM489 Pressure Transmitter Outline Drawing (Plug Connection)	V1.0	2016-05-19
MS2.580.023P2WX	MPM489 Pressure Transmitter Outline Drawing (Plug Connection)	V1.0	2017-01-06
MS2.803.047DL	MPM489 Pressure Transmitter Signal Processor (five) (Current Type) 2-wire (two sheets)	V2.0	2020-06-05
MS7.803.047	MPM489 Pressure Transmitter Signal Processor (five) (Current Type) 2-wire	V1.0	2017-01-06
MS7.820.223	MPM489 Pressure Transmitter Signal Processor (five) (Current Type) 2-wire	V1.0	2017-01-06
MS5.900.105DL	MPM489 Pressure Transmitter Signal Processor (six) (Voltage Type) 3-wire (two sheets)	V2.0	2020-06-05
MS5.900.105	MPM489 Pressure Transmitter Signal Processor (six) (Voltage Type) 3-wire	V1.0	2017-01-06
MS7.820.154-1	MPM489 Pressure Transmitter Signal Processor (six) (Voltage Type) 3-wire	V1.0	2017-01-06
MS2.803.184DL	MPM489 Pressure Transmitter Signal Processor (six) (Voltage Type) 3-wire (two sheets)	V1.0	2020-06-05
MS5.803.184	MPM489 Pressure Transmitter Signal Processor (six) (Voltage Type) 3-wire	V1.0	2020-06-05
MS7.820.363	MPM489 Pressure Transmitter Signal Processor (six) (Voltage Type) 3-wire	V1.0	2020-06-05
MS8.807.318	MPM489 Pressure Transmitter Label (Current type) 2-wire	V2.0	2020-06-05
MS8.807.319	MPM489 Pressure Transmitter Label (Voltage type) 3-wire	V2.0	2020-06-05
VHD.M2.585.019-1	MPM Series Pressure Sensing Element (PC3)	V1.0	2017-01-06
VHD.M2.585.019-2	MPM Series Pressure Sensing Element (PC1)	V1.0	2017-01-06
MS2.585.005	MPM Series Pressure Sensing Element	V1.0	2017-01-06
MS2.580.052	MPM489W Level Transmitter Assembly Drawing	V4.0	2020-06-05
MS2.580.052-1	MPM489W Level Transmitter Assembly Drawing	V3.0	2020-06-05
MS2.580.052WX	MPM489W Level Transmitter Outline Drawing	V2.0	2019-10-14
MS2.580.052-1WX	MPM489W Level Transmitter Outline Drawing	V1.0	2019-10-14
MS8.807.320	MPM489W Level Transmitter Label (Current type) 2-wire	V2.0	2020-06-05
MS8.807.321	MPM489W Level Transmitter Label (Voltage Type) 3-wire	V2.0	2020-06-05

[20] **Certificate History**

Issue	Description	Issue date	Report no.
0	Original issue	2018-06-08	2017-9493, Rev. 00
1	The applied standard was updated to EN IEC 60079-0:2018.	2019-11-04	2017-9493, Rev. 01

	For MPM489W Level Transmitter, a new type of welding sealing mode was added.		
2	The materials of enclosure parts were changed from stainless steel 1Cr18Ni9Ti or 022Cr17Ni12Mo2 to SS304 or SS316L.	2020-04-03	2017-9493, Rev. 02
3	The type designation was updated. Several bases with different types of threads were added. A voltage type circuit of 15V input was added. Two more types of cables were added. More options of sealing ring and sealing washer were added.	2020-09-10	2017-9493, Rev. 03

END OF CERTIFICATE